DMC-GF1 (Body) Specifications NEW

TYPE	Type			Digital interchangeable lens system camera
	Recording media			SD memory card, SDHC memory card
	Image sensor size			17.3 x 13.0 mm (in 4:3 aspect ratio)
	Lens mount			Micro Four Thirds mount
IMAGE SENSOR	Type			Live MOS Sensor
	Total pixels			13.1 Megapixels
	Camera effective pixels			12.1 Megapixels
	Color filter			Primary color filter
	Dust reduction system			Supersonic wave filter
RECORDING SYSTEM	Recording file format			Still Image: JPEG(DCF, Exif 2.21), RAW, DPOF compatible Still Image with Audio: JPEG(DCF, Exif 2.21) + QuickTime Motion JPEG
	File size (Pixels)	Still Image		4:3: 3:2: 16:9: 1:1
				RAW, RAW+Fine, RAW+Standard, Fine, Standard
				sRGB, Adobe RGB
				[4:3] 4000 x 3000 (L), 2816 x 2112 (M), 2048 x 1536 (S)
				[3:2] 4000 x 2672 (L), 2816 x 1880 (M), 2048 x 1360 (S)
				[16:9] 4000 x 2248 (L), 2816 x 1584 (M), 1920 x 1080 (S)
				[1:1] 2992 x 2992 (L), 2112 x 2112 (M), 1504 x 1504 (S)
		Motion Image	Motion JPEG	[4:3] QVGA : 320 x 240, 30 fps / VGA : 640 x 480, 30 fps
				[16:9] WVGA : 848 x 480, 30 fps
			AVCHD Lite NTSC	(HD) 1280 x 720, 30 fps
				(HD) 1280 x 720, 60p (sensor output is 30 fps) (SH: 17 Mbps, Hi: 13 Mbps, L: 9 Mbps)
			AVCHD Lite PAL	(HD) 1280 x 720, 50p (sensor output is 25 fps) (SH: 17 Mbps, Hi: 13 Mbps, L: 9 Mbps)
	Continuous recordable time [Motion images]			AVCHD Lite with picture quality set to [SH]: Approx. 210 min with H-H020 / Approx. 170 min with H-FS014045 Motion JPEG with picture quality set to [HD]: Approx. 210 min with H-H020 / Approx. 170 min with H-FS014045
	Actual recordable time [Motion images]			AVCHD Lite with picture quality set to [SH]: Approx. 110 min with H-H020 / Approx. 100 min with H-FS014045 Motion JPEG with picture quality set to [HD]: Approx. 110 min with H-H020 / Approx. 100 min with H-FS014045
FOCUS	Type			Contrast AF system
	Focus mode			AFS / AFC / MF
	AF mode			Face detection / AF Tracking / 23-area-focusing / 1-area-focusing
	AF detective range			EV 0-18 (F3.5 lens, ISO 100)
	AF assist lamp			YES
	AF lock			AF/AE LOCK button or Shutter button halfway pressed in AFs mode
	Others			Pre AF (Quick AF / Continuous AF), AF+MF, MF Assist (5x, 10x)
EXPOSURE CONTROL	Light metering system			144-zone multi-pattern sensing system
	Light metering mode			Intelligent Multiple / Center Weighted / Spot
	Metering range			EV 0-18 (F2.0 lens, ISO 100)
	Exposure mode			Program AE, Aperture Priority AE, Shutter Priority AE, Manual
	ISO sensitivity (Standard Output Sensitivity)			Auto / 100 / 200 / 400 / 800 / 1600 / 3200 / Intelligent ISO
	Exposure compensation			1/3 EV Step ±3 EV
	AE lock			AF/AE LOCK button or Shutter button halfway pressed
	AE bracket			3.5.7 frame, in 1/3 or 2/3 EV Step, ±2 EV
WHITE BALANCE	White balance			Auto / Daylight / Cloudy / Shade / Halogen / Flash / White Set 1,2 / Color temperature setting
	White balance adjustment			Blue/amber bias, Magenta/green bias
	Color temperature setting			2500-10000K in 100K
	White balance bracket			3 exposures in blue/amber axis or in magenta/green axis
SHUTTER	Type			Focal-plane shutter
	Shutter speed			Still Images: 1/4000 – 60 and Bulb (up to approx. 4minutes)
	Self timer			2sec / 10sec / 10sec, 3 images
	Remote control			Remote control with bulb function by DMW-RSL1 (Optional)
SCENE MODE	Still Image SCN mode			Portrait / Soft Skin / Scenery / Architecture / Sports / Peripheral Defocus / Flower / Food / Objects / Night Portrait / Night Scenery / Illuminations /Baby 1,2 / Pet / Party / Sunset
	Movie SCN mode			Portrait / Soft Skin / Scenery / Architecture / Sports / Flower /Food /Objects / Low Light / Party / Sunset [Activated by selecting Still Image SCN mode then pressing Movie Button. Still Image SCN modes without corresponding Movie SCN mode are recorded in Normal mode or other related mode.]

MY COLOR MODE	My Color Mode	Expressive / Retro / Pure / Elegant / Monochrome / Dynamic Art /Silhouette / Custom [Color/Brightness/Saturation adjustable]
BURST SHOOTING	Burst speed	3 frames/sec (High speed) or 2 frames/sec (Low speed)
	Number of recordable images	7 images [when there are RAW files with the particular speed] Unlimited consecutive shooting [when there are no RAW files] (depending on memory card size, battery power, picture size, and compression)
BUILT-IN-FLASH	Type	TTL, Built-in-Flash, GN6.0 equivalent [ISO 100•m], Built-in Pop-up
	Flash mode	Auto, Auto/Red-eye Reduction, Forced On, Forced On/Red-eye Reduction, Slow Sync. /Slow Sync./Red-eye Reduction, Forced Off
	Synchronization speed	Less than 1/160 second
	Flash output adjustment	1/3 EV Step ±2 EV
	Flash synchronization	1st. Curtain Sync, 2nd Curtain Sync.
	Hot shoe	TTL Auto with FL220/FL360/FL500(Optional)
LCD MONITOR	Type	Low temperature Polycrystalline TFT LCD
	Monitor size	3.0-inch / 3:2 Aspect / Wide viewing angle
	Pixels	460K dots
	Field of view	Approx. 100%
	Monitor adjustment	Brightness [7 levels], Color [7levels]
LIVE VIEW	LCD mode	Off / Auto Power LCD / Power LCD
	Digital zoom	2x, 4x
	Extra optical zoom	Max. 2x (Not effective with i.Size recording. Magnification ratio depends on the recording pixels and aspect ratio.)
	Other functions	Guide Lines [3 patterns]
FILM MODE	Type	Real-time Histogram
	Color	Standard / Dynamic / Nature / Smooth / Nostalgic / Vibrant
	Black and white	Standard / Dynamic / Smooth
	Others	My Film1 / My Film2 / Multi Film
PLAYBACK	Playback mode	Normal playback, 30-thumbnail display, 12-thumbnail display, Calendar display, Zoomed playback (16x Max.), Slideshow, Playback Mode (Normal/ Picture/AVCHD Lite/Motion JPEG/Category/Favorite), Title Edit, Text Stamp, Resize, Trimming, Aspect Conversion, Rotate, Rotate Display, Print Set, Protect, Audio Dubbing
IMAGE PROTECTION / ERASE	Protection	Single / Multi or Cancel
	Erase	Single / Multi / All / Except Favorite
PRINT	Direct print	PictBridge compatible [Print size, Layout, Date setting is selectable]
INTERFACE	USB	USB 2.0 High Speed
	HDMI	miniHDMI TypeC Video: Auto / 1080i / 720p / 480p (576p in PAL system) Audio: Dolby® Digital Creator
	Audio video output	Monaural Type, NTSC/PAL, NTSC only for North America *Check the website of the Panasonic sales company in your country or region for details on the products that are available in your market.
	Remote	Ø2.5 mm.
	Built-in microphone	Monaural, Wind-cut: Off / Low / Standard / High
	External microphone terminal	NO
	Speaker	YES
LANGUAGE	OSD language	English, German, French, Italian, Spanish, Polish, Czech, Hungarian, Russian, Chinese (Traditional), Chinese (Simplified), Dutch, Thai, Korean, Turkish, Portuguese, Arabic, Persian, Japanese, Swedish, Danish, Finnish *Check the website of the Panasonic sales company in your country or region for details on the OSD languages on the products that are available in your market.
POWER	Battery	ID-Security Li-ion Battery Pack (7.2V, 1250mAh) [Included] Battery Charger/AC Adaptor [Input: 110-240V AC, DC Cable is required]
	Battery life	Still Images* CIPA Standard: Approx. 380 images (LCD) with LUMIX G 20mm/F1.7 ASPH.
DIMENSIONS / WEIGHT	Dimensions [W x H x D]	119 x 71 x 36.3mm / 4.69 x 2.80 x 1.43 in
	Weight	Approx. 285 g / 10.05 oz [Body only]
OPERATING ENVIRONMENT	Operating temperature	[0°C to 40°C/32°F to 104°F]
	Operating humidity	10% to 80%
STANDARD ACCESSORIES	Software	PHOTOfunSTUDIO 4.0 HD Edition, SILKYPIX® Developer Studio 3.0 SE, USB Driver
	Standard accessories	Battery Charger/AC Adaptor, Battery Pack, Body Cap, AV Cable, USB Connection Cable, AC Cable, Shoulder Strap, CD-ROM

Lens Specifications NEW

LUMIX G 20mm / F1.7 ASPH
(35mm camera equivalent: 40mm)

Lens Construction	7 elements in 5 groups [2 Aspherical lenses]
Mount	Micro Four Thirds mount
Optical Image Stabilizer	No
Focal Length	f=20 mm (35 mm camera equivalent 40 mm)
Aperture Type	7 diaphragm blades / Circular aperture diaphragm
Aperture	F1.7
Minimum Aperture	F16
Closest Focusing Distance	0.2 m / 0.66 ft
Maximum Magnification	Approx. 0.13x / 0.25x (35 mm camera equivalent)
Diagonal Angle of View	57°
Filter Size	Ø46 mm / 1.81 in
Max. Diameter	Ø63 mm / 2.48 in
Overall Length	Approx. 25.5 mm / 1.00 in (from the tip of the lens to the base side of the lens mount)
Weight	Approx. 100 g / 3.53 oz
Standard Accessories	Lens Cap, Lens Rear Cap, Lens Storage Bag

LEICA DG MACRO-ELMARIT 45mm / F2.8 ASPH. / MEGA O.I.S.
(35mm camera equivalent: 90mm)

Lens Construction	14 elements in 10 groups [1 Aspherical lens, 1 ED lens]
Mount	Micro Four Thirds mount
Optical Image Stabilizer	YES
Focal Length	f=45 mm (35 mm camera equivalent 90 mm)
Aperture Type	7 diaphragm blades / Circular aperture diaphragm
Aperture	F2.8
Minimum Aperture	F22
Closest Focusing Distance	FULL: 0.15 m / 0.5 ft, LIMIT: 0.5 m / 1.64 ft
Maximum Magnification	Approx. 1.0x / 2.0x (35 mm camera equivalent)
Diagonal Angle of View	27°
Filter Size	Ø46 mm / 1.81 in
Max. Diameter	Ø63 mm / 2.48 in
Overall Length	Approx. 62.5 mm / 2.46 in (from the tip of the lens to the base side of the lens mount)
Weight	Approx. 225 g / 7.94 oz
Standard Accessories	Lens Cap, Lens Hood, Lens Rear Cap, Lens Storage Bag

Partial restrictions on using Panasonic digital video cameras to play AVCHD Lite motion images recorded with the GF1.
•AVCHD Lite motion images recorded with the image quality set to SH/H/L mode (1280 × 720) cannot be played on AVCHD-compatible digital video cameras. •AVCHD motion images recorded with AVCHD-compatible digital video cameras cannot be played on the GF1. •More detailed information is available on our support site: **http://panasonic.jp/support/global/cs/dsc**

*Shooting conditions: 23°C with 50% humidity; LCD on; Using a Panasonic SD Memory Card (512MB); Using the supplied battery; Using the supplied lens; Starting recording 30 seconds after the camera is turned on (When the optical image stabilizer is set to [Mode1]); Recording once every 30 seconds with full flash every second recording; Turning the camera off every 10 recordings; The number of recordable images decreases in Auto Power LCD mode or Power LCD mode. CIPA is an abbreviation of "Camera & Imaging Products Association".

•About the performance of Face Recognition function
Recognition performance varies greatly depending on shooting conditions, i.e., according to factors such as angles, facial expression and lighting, so operation under all conditions cannot be guaranteed. Because the camera searches for faces that are similar to registered faces, there are cases where the faces are not correctly recognized when the registered image and the shooting image varies much. When facial characteristics are similar, particularly between parents and their children or brothers and sisters, the camera may not distinguish the faces.

•AVCHD Lite motion images recorded onto an SD Memory Card or a DVD disc cannot be played from a device that does not support the AVCHD standard. •The "AVCHD Lite" and "AVCHD Lite" logos are trademarks of Panasonic Corporation and Sony Corporation. AVCHD is a high-definition (HD) digital video recording / playback format jointly established by Panasonic Corporation and Sony Corporation. AVCHD Lite is a subset of the AVCHD format for HD digital video cameras with HD video recording restricted to 720P. The new "AVCHD Lite" logo and the "AVCHD Lite" license are restricted to devices within the AVCHD Video Camera category. Digital cameras have been added to the AVCHD Video Camera category. For more details, please refer to the "AVCHD Information Website", http://www.avchd-info.org/ •The release date may differ depending on the country. Check the website of the Panasonic sales company in your country or region for details on the optional accessories that are available in your market. •The DMW-BLB13 comes with a function to check whether the battery and unit can be safely used together. •Batteries made by other companies which have been certified by Panasonic may be used with these units, but we offer no guarantee as to the quality, performance or safety of such batteries. •Exercise care when purchasing batteries. Many fake or imitation batteries have been found among those sold at unusually low prices and those which customers cannot check for themselves before purchasing. •Please confirm the latest information about batteries on the following website. http://panasonic.co.jp/avc/global/cs/info/battery.html (English) •Lenses other than LUMIX G lenses cannot use the AF Tracking, AFc (Auto Focus Continuous) or Continuous AF functions. Also, when a lens that does not support the Contrast AF function is mounted, operation will automatically switch to manual focus. Confirm the operation information of compatible lenses at Customer support http://panasonic.jp/support/global/cs/dsc (English). •The SDHC Memory Card can be used only if the SDHC logo is indicated on the equipment or in the operation manual. It cannot be used with equipment that supports only the SD Memory Card.

•PHOTOfunSTUDIO 4.0 HD Edition: Requires Microsoft® Windows® XP or Vista®. •SILKYPIX® Developer Studio 3.0 SE: Requires Microsoft® Windows® Me/2000/XP or Vista® (Only a systems administrator with authority can install software on a Windows® XP or 2000), or Apple® Mac OS® X v10.2 or later (Version 10.3 or later is recommended). •Four Thirds™ and Micro Four Thirds™, and Four Thirds and Micro Four Thirds Logo marks are trademarks or registered trademarks of Olympus Imaging Corporation, in Japan, the United States, the European Union and other countries. •Dolby and the double-D symbol are trademarks of Dolby Laboratories. •HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC. •Microsoft® and Windows® are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. •Apple® and Mac OS® are either registered trademarks or trademarks of Apple Inc. in the United States and/or other countries. •QuickTime and the QuickTime logo are trademarks or registered trademarks of Apple Inc., used under license therefrom. •Leica is a registered trademark of Leica Microsystems IR GmbH. •Other names of systems and products mentioned in this brochure are generally the registered trademarks or trademarks of the manufacturers who developed the system or product concerned. •Some accessories are not available in some countries. •Weight and dimensions shown are approximate. •Design, functions, and specifications are subject to change without notice. •Overall length of lens is from the tip of the lens to the base side of the lens mount. •Some functions may not work when lenses other than the included lens are used. Please refer to Panasonic's website etc., for the latest information. •Availability of colors and OSD languages may vary depending on the sales area. •Some sample images are simulated. •The use of recorded or printed materials that are protected by copyright for any purpose other than personal enjoyment is prohibited, as it would infringe upon the rights of the copyright holder.

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New-Generation System Cameras

LUMIX G™ MICRO SYSTEM

GF1

A Good Fit

Art Begins with a Good Fit.

Compact cameras don't have everything I need.

But single-lens-reflex cameras are too bulky to carry around.

I don't really want an SLR camera, but I want my photos to have SLR quality.

I want a small camera with a new but classical design that fits my style.

A hybrid model that lets me take both photos and movies with top quality.

And I want to be able to arrange my photos to suit my taste.

I want the GF1, a system camera that excites me with its beauty and grace.

Because to me, photography is an art.

RED

GF1

BLACK

SILVER

WHITE

A Good Fit for My Artistic Photos

My Color Mode Puts You in Control of Your Colors

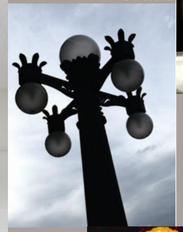
Naturally you want your photos to be unique. My Color mode on the GF1 lets you control each and every photo with eight unique preset modes in all, including a colorful Expressive mode, a soft and moody Pure mode, and a Custom mode that lets you adjust the color, brightness, and saturation just the way you want them. You can dramatically change the images of even familiar subjects to express your own creativity.

Custom mode

Monochrome

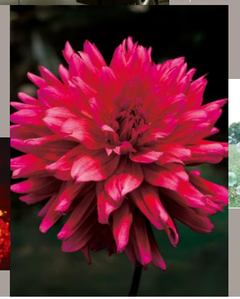
Retro

Silhouette



Dynamic art

Expressive



Elegant

Pure

Let the Exposure Meter Guide You

The degree of aperture and shutter speed that can be changed within a suitable exposure range are indicated in the on-screen meter display. The range in which appropriate exposure is not possible is shown in red, so you can intuitively grasp the corresponding aperture and shutter speed combinations.

A Peripheral Defocus Mode Gives You the Soft Focus of an Interchangeable Lens

The GF1 automatically adjusts the focus to match the AF area you positioned while gently defocusing the foreground and background to emphasize the subject. You don't have to change the aperture yourself to take photos with the highly attractive soft focus effect of an SLR camera.

Full-time Live View: See How the Image Will Turn Out Before You Shoot

The GF1's Full-time Live View lets you see in the LCD how adjusting the exposure, white balance, aperture and even the shutter speed will affect the shot. This makes it easier to capture a special shot or particular kind of image without shooting again and again.

Shutter Speed Effect

iA Mode Helps Prevent Shooting Mistakes in a Variety of Situations

Turn a dial to select iA mode, and the GF1 automatically activates a host of advanced functions and technologies – described below – that make it easy to capture beautiful, clear shots.

Face Recognition

This function recognizes the faces of subjects that have been registered in the camera and displays the names of up to three people. The GF1 then optimizes the focus and brightness of the registered faces. *Turn Face Recognition item ON and register the person with a full-face portrait on the shooting menu in advance. Refer to back page for details.

AF Tracking

Once you've focused on a subject, AF Tracking keeps the subject in focus – even if it moves – until you press the shutter release.

Intelligent Exposure

The camera can correct the brightness in parts of the image that are too dark due to insufficient lighting, backlighting or use of the flash.

Intelligent Scene Selector

The camera automatically selects whichever of five Scene modes – Portrait, Night Portrait, Scenery, Night Scenery, and Macro – best suits the situation.

Face Detection AF/AE

The camera detects when there are faces in the frame and adjusts the focus and exposure to capture them properly. This allows you to shoot beautiful portraits without any hassle.

Intelligent ISO Control

If the subject moves as you snap the shot, the camera automatically adjusts the ISO sensitivity and shutter speed to help prevent subject blur.

MEGA O.I.S. (Optical Image Stabilizer)

Gyrosensors built into the lens detect hand-shake and an O.I.S. shifts to compensate. Assisting you in getting those clear, beautiful, blur-free photos.

*Some functions in iA mode will not be available depending on the lens that is mounted.

A Good Fit for My HD Movies

Extended HD Movie Recording with SLR Quality

The hybrid GF1 lets you take both high-quality photos and HD movies. You can shoot breathtaking HD (1280 × 720) movies in AVCHD Lite format (MPEG-4/H.264) backed by the high sound quality of Dolby Digital Creator. And you can record for a longer time without running out of memory because AVCHD Lite stores less data than Motion JPEG while maintaining stunning image clarity and detail. A dedicated button on the top lets you instantly start recording movies while shooting photos, without having to make any extra settings.

•For Europe, motion images can be recorded continuously for up to 29 minutes 59 seconds. •"AVCHD Lite" and "AVCHD Lite" logos are trademarks of Panasonic Corporation and Sony Corporation. •Dolby and the double-D symbol are trademarks of Dolby Laboratories.

Produce Original HD Movies

My Color mode and Scene mode can also be used to record movies. And Motion Picture P mode lets you change the aperture for more creative HD movie recording.

iA Mode: Beautiful HD Movies with Point-and-Shoot Ease

Select iA mode, and the GF1 automatically activates a host of advanced functions and technologies – listed below – that make it easy to capture beautiful HD movies.

Intelligent Scene Selector

Face Detection AF/AE

Intelligent Exposure

MEGA O.I.S. (Optical Image Stabilizer)

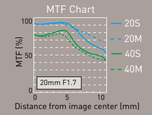
*Some functions in iA mode will not be available depending on the lens that is mounted.

A Good Fit for My Favorite Lenses

Ultra-Portable Pancake Lens: LUMIX G 20mm/F1.7 ASPH.

This bright F1.7/20mm (35mm camera equivalent: 40mm) fixed focus lens produces bright photos with a dramatic soft focus even in dimly lit locations. Its compact, easy-to-carry size is also ideal for capturing everyday scenes and snapshots.

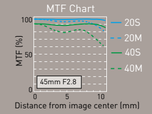
*This lens uses a lens drive system to enable a compact and bright F1.7. As a result of this, operating sounds are recorded when auto-focusing during motion picture recording.



For the lenses distortion compensation available, the horizontal axis of MTF is the distance from the center, which is compensated accordingly.

LEICA DG MACRO-ELMARIT 45mm/F2.8 ASPH./MEGA O.I.S.

This F2.8 45mm (35mm camera equivalent: 90mm) macro lens with built-in optical image stabilizer lets you take close-ups that capture your subjects in their actual size (35mm camera equivalent: approx. 2x). It also greatly boosts mobility by serving as a medium-length telephoto lens for portraits, telephoto snapshots and landscapes.

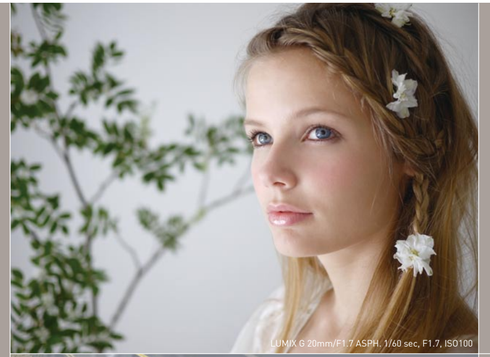


For the lenses distortion compensation available, the horizontal axis of MTF is the distance from the center, which is compensated accordingly.

Use Leica and Four Thirds Lenses

By mounting a separately purchased lens adaptor to the GF1, any of more than 20 available Leica M/R lenses or 30 Four Thirds lenses can be used with the Micro Four Thirds System standard GF1.

•LEICA is a registered trademark of Leica Microsystems IR GmbH. ELMARIT is a registered trademark of Leica Camera AG. The LEICA DG lenses are manufactured using measurement instruments and quality assurance systems that have been certified by Leica Camera AG based on the company's quality standards. •Four Thirds™ and Micro Four Thirds™, and Four Thirds and Micro Four Thirds Logo marks are trademarks or registered trademarks of Olympus Imaging Corporation, in Japan, the United States, the European Union and other countries.



LUMIX G 20mm/F1.7 ASPH. 1/60 sec, F1.7, ISO100

LEICA DG MACRO-ELMARIT 45mm/F2.8 ASPH./MEGA O.I.S. 1/30 sec, F7.1, ISO100

A Good Fit for My Expectation of Image Quality

Versatile Functions and Superb Images. Uncompromising Performance in the World's Smallest, Lightest System Camera*

The GF1 adopts the Micro Four Thirds System standard, which was developed as an extended version of the Four Thirds System standard for digital camera systems. By using this standard and developing a camera body that eliminates the mirror box and optical viewfinder unit, we were able to achieve a dramatic reduction in both size and weight compared with conventional digital SLR cameras, to create a new-generation system camera that features Full-time Live View, high-speed, high-precision Contrast AF, HD movie recording, and more. The GF1 is small enough to take anywhere yet sophisticated enough to take you as far into photography and movies as you want to go.

*For a system camera with a built-in flash as of September 2, 2009

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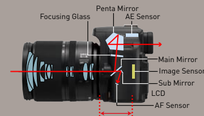
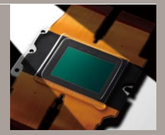
Mirror Structure (DMC-L10)



Mirror-Less Structure (DMC-GF1)

12.1-Megapixel Live MOS Sensor: Higher Image Quality, Lower Power Consumption

The 4/3-type 12.1-megapixel Live MOS sensor featured in the GF1 offers the best of both worlds – the superior image quality of a CCD sensor, and the lower power consumption of a CMOS sensor. This sensor is also advantageous for photo and movie recording with its high S/N, thanks to a new circuit structure that is unaffected by the noise generated in each of the circuits. It results in clear images even taken at high ISO sensitivity.



The High-Speed, High-Performance Venus Engine HD

The Venus Engine HD incorporates two CPUs. This not only boosts image processing speed, it also helps achieve an exceptional noise-reduction performance. Also, the two CPUs of the Venus Engine HD allow long-time movie recording in AVCHD Lite format while maintaining low power consumption. And the Venus Engine HD features HDMI output too.

Dust Reduction System Protects the Image Sensor

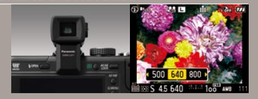
If dust or other foreign matter gets inside the camera when you're changing lenses, it could cling to the image sensor and show up as a spot in photos. The GF1 helps eliminate this possibility by placing a Supersonic Wave Filter in front of the Live MOS sensor. Vibrating around 50,000 times per second, the filter repels dust and other particles. This keeps the image sensor clean at all times and eliminates the need for cumbersome maintenance procedures.

A Built-In Flash in a Stylish Body

The built-in flash is normally concealed inside the body and out of sight. A single touch pops the flash up for easy shooting anytime you want. You can also adjust the light intensity in the range of ±2 EV at 1/3 EV steps to match your subject.

An Optional Live View Finder Mounts to the Hot Shoe

You can equip the GF1 with an optional 202,000-dot equivalent Live View Finder (LVF) featuring a magnification of approximately 1.04x (0.52x*) and 100% field of view. Because it displays the same information as the LCD, it is effectively used in situations where the LCD is difficult to see, such as under bright sunlight. The LVF is also handy for low-angle shots because it can be tilted vertically from 0 to 90 degrees. *35 mm camera equivalent.



A Good Fit for My Viewing Style

HD Photos and HD Movies with VIERA Link Networking

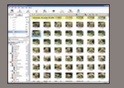
The GF1 is equipped with an HDMI output terminal for direct transmission of digital image and sound signals. Just connect the camera to an HDTV using a single HDMI mini cable (optional). It's also easy to enjoy slideshows in which both photos and movies are played according to the recorded timeline. If you have a VIERA TV, you can control the camera's playback functions with VIERA's remote control unit. •HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

Easy HD Image Viewing with the SD Card Slot

Simply take the SDHC/SD Memory Card from the GF1 and slip it into the card slot of a Panasonic VIERA or Blu-ray Disc™ player, and you're ready to view HD images. For even greater impact and entertainment fun, you can add background music and image effects to your image slideshows. *To play movies recorded in the Motion JPEG format, you need the included AV cable.

PHOTOfunSTUDIO 4.0 HD Edition Makes Photo and Movie Editing Easy

AVCHD Lite movies can be transferred to a PC from an SDHC/SD Memory Card or via the USB cable to view or edit them. You can also make a DVD disc from AVCHD Lite files by converting them to MPEG-2. The software makes it easy and fun to edit or organize a collection of photos. It features a Face Recognition function that recognizes the faces in the photos stored in your PC and lets you sort them by face. Also, photos shot with My Color mode can be categorized and viewed by style. The sophisticated interface allows you to enjoy emotion-packed slideshows with a variety of effects and music. And motion images can be directly uploaded to YouTube™. •YouTube is a trademark of Google Inc



PHOTOfunSTUDIO 4.0 HD Edition System Requirements

	Windows® XP	Windows Vista®
PC	(IBM® PC/AT compatible personal computer having Intel® Pentium® III 500 MHz or higher CPU [including compatible CPU])	(IBM® PC/AT compatible personal computer having Intel® Pentium® III 800MHz or higher CPU [including compatible CPU])
	Recommended environment for AVCHD motion picture function: Intel® Core™ 2 Duo 2.16 GHz/Pentium® D 3.2 GHz or higher (when playing back the main unit; Intel® Core™ 2 Quad 2.4 GHz or higher (when editing motion pictures). The minimum environment for AVCHD motion picture function (environment which can be played back for 2 frames/second): Intel® Pentium® III 1 GHz or higher	
OS (Preinstalled)	Microsoft® Windows Vista® Home Basic or Service Pack 1/Service Pack 2 / Microsoft® Windows Vista® Home Premium or Service Pack 1/Service Pack 2 / Microsoft® Windows Vista® Ultimate or Service Pack 1/Service Pack 2 / Microsoft® Windows Vista® Business or Service Pack 1/Service Pack 2 / Windows® XP Home Edition Service Pack 2/Service Pack 3 / Windows® XP Professional Service Pack 2/Service Pack 3	
Display	High Color (16bit or more [32 bit or more recommended]; Desktop resolution of 1024 x 768 pixels or more (1280 x 1024 pixels or more recommended)	
	Video card	
	Graphics card complying with DirectX® 9 0c	Graphics card complying with DirectX® 10
	DirectDraw® overlay support PCI Express®'s 16 is recommended	
RAM	256MB or more	512MB or more
	(1 GB or more for AVCHD/AVCHD Lite motion picture function)	
Free hard disk space	Ultra DMA-100 or higher; 450 MB or more for installing software •When writing to DVD, twice the amount of free space as the disc is necessary. •If the compression setting is enabled, errors will occur during recording. Clear the check for [Compress this drive to save disk space] in [Properties] for the hard disk drive.	
Necessary software	DirectX® 9.0c •If you install the software in a PC that is not compatible with DirectX® 9.0c, the PC may stop operating properly. If you are unsure if your PC is compatible, contact the maker.	DirectX® 10
	.NET Framework 2.0, Internet Explorer 6.0 or more	
Drive	CD-ROM drive [required for installing software] •A compatible drive and media are required for DVD writing	
Sound	Windows compatible sound device	
Interface	USB port (Hi-Speed USB [USB2.0])	
Other requirements	Mouse or equivalent pointing device	

•Even if the system requirements mentioned in these operating instructions are fulfilled, some personal computers cannot be used. •The operation of this software will not be guaranteed when fonts other than English fonts are selected and used.The operation of this software will not be guaranteed when fonts other than English fonts are selected and used. •This software may not run properly on user-built computers. •This software cannot be used on Microsoft Windows® 3.1, Windows® 95, Windows® 98, Windows® 98SE, Windows® Me, Windows NT®, and Windows®2000. •Operation is not guaranteed on Microsoft® Windows Vista® Enterprise, Windows® XP Media Center Edition, Tablet PC Edition and not compatible with 64 bit operation systems. •Operation on an upgraded OS is not guaranteed. •Operation on an OS other than the one pre-installed is not guaranteed. •Multi-boot environment is not supported. •This software does not support the multi-monitor environments. •Only the system administrator can install or uninstall this software. •Log on with an administrator account or standard user account before using this software. You cannot use this software with a guest account. •If the settings for the size of characters in the screen settings dialog box in Windows are larger than the standard size, some buttons may be displayed off-screen and cannot be operated. In this case, restore the font size to standard size. •When 2 or more USB devices are connected to a PC, or when devices are connected through USB hubs or by using extension cables, proper operation is not guaranteed. •Operation on Windows Vista® Ultimate with the user-interface set to other languages using the Multi-language User Interface (MUI) function is not guaranteed. •Only AVCHD/AVCHD Lite motion pictures that were created with the following can be handled–This software and digital camera that had this software supplied with it

SILKYPIX® Developer Studio 3.0 SE Adjusts RAW Images Any Way You Want Them

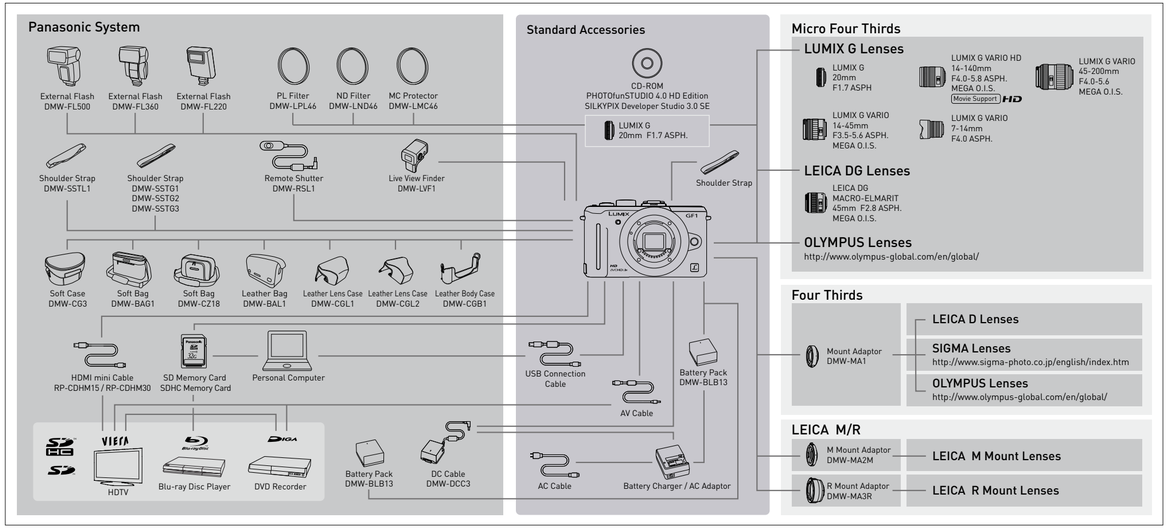
The GF1 records original image data in RAW file format, which allows images to be developed according to your intention. A number of highly advanced functions can be applied to these RAW images by using the SILKYPIX® Developer Studio 3.0 SE software utility, with its unique combination of high resolution and extraordinary color separation.

SILKYPIX® Developer Studio 3.0 SE System Requirements

	Windows	Macintosh
PC	Intel® Pentium® compatible processors (Pentium 4 or higher recommended), Multi-core processor ready (Intel Core Duo, Pentium D, AMD Athlon 64 X2, etc.)	PowerPC® G4 or its dual-processor (G5 or later recommended); Supported Intel Core Duo and Universal Binary
OS	Windows® Me, Windows® 2000, Windows® XP, Windows Vista® (The Windows® 2000/XP/Windows Vista® recommended)	Mac OS X v10.2 (v10.3 or later recommended)
Display	XGA (1024 x 768) and Full-Color (24 bits) or more	Display that supports a resolution of 1024 x 768 or more. Display and video card capable of displaying 16bit color or more.(24bit color or more recommended)
RAM	512MB (1GB or more recommended) (1GB or more if using Windows Vista®)	512MB (1GB or more recommended)
Free hard disk space	100MB or more free space (required for installation and activation) •A large amount of free disk space is required depending on the development data or storage of images after development. (1 photograph will use around 10MB)	
Drive	CD-ROM drive (required to install this program)	
Other requirements	Keyboard, mouse, or equivalent input device	

•System administrator (Administrator) privileges are necessary when installing this software on Windows® 2000, Windows® XP or Windows Vista® •This software cannot be used on 64-bit OS. •The personal computer must be connected to the Internet for user registration.

GF1 System Chart



•Some functions of GF1 cannot be used when mounting the Four Thirds lenses with the Mount Adaptor DMW-MA1, the LEICA M or R lenses with the Mount Adaptor DMW-MA2M or DMW-MA3R. •Leica is a registered trademark of Leica Microsystems IR GmbH. •When a lens that does not support the Contrast AF function is mounted, operation will automatically switch to manual focus. •Confirm the operation information of compatible lenses at Customer Support **http://panasonic.jp/support/global/cs/dsc** (English). •For detailed information about the lenses made by SIGMA, OLYMPUS and LEICA, please see each company's website. •The DMW-BLB13 comes with a function to check whether the battery and unit can be safely used together. •Batteries made by other companies which have been certified by Panasonic may be used with these units, but we offer no guarantee as to the quality, performance or safety of such batteries. •Exercise care when purchasing batteries. Many fake or imitation batteries have been found among those sold at unusually low prices and those which customers cannot check for themselves before purchasing. •Please confirm the latest information about batteries on the following website. **http://panasonic.jp/support/global/cs/info/battery.html** (English). •The SDHC Memory Card can be used only if the SDHC logo is indicated on the equipment or in the operation manual. It cannot be used with equipment that supports only the SD Memory Card.

Optional Accessories

Live View Finder DMW-LVF1 NEW	**Mount Adaptor** DMW-MA1 DMW-MA2M DMW-MA3R	**Leather Body Case** DMW-CGB1-K NEW DMW-CGB1-C NEW	**Leather Lens Case (for 20mm lens)** DMW-CGL1-K NEW DMW-CGL1-C NEW	**Leather Lens Case (for 14-45mm lens)** DMW-CGL2-K NEW DMW-CGL2-C NEW	**Soft Case** DMW-CG3-K NEW	**Soft Bag** DMW-BAG1	**External Flash** DMW-FL220 DMW-FL360 DMW-FL500
Remote Shutter DMW-RSL1	**Battery Pack** DMW-BLB13	**HDMI mini Cable** RP-CDHM15 (1.5 m) RP-CDHM30 (3.0 m)	**Shoulder Strap (Stylish)** DMW-SSTG1-K (Black) DMW-SSTG1-A (Blue) DMW-SSTG1-C (Beige) DMW-SSTG1-R (Red)	**Shoulder Strap (Woven)** DMW-SSTG2-W (White)	**Shoulder Strap (Leather)** DMW-SSTG3-T (Brown)	**SD / SDHC Memory Card** Pro High Speed 32 GB*: RP-SDV32G 16 GB*: RP-SDV16G 8 GB*: RP-SDV08G 4 GB*: RP-SDV04G 2 GB*: RP-SDV02G High Speed 12 GB*: RP-SDM12G 6 GB*: RP-SDM06G 4 GB*: RP-SDM04G 2 GB*: RP-SDM02G 1 GB*: RP-SDR01G *1 GB = 1 billion bytes. Usable capacity will be less.			

•Check the website of the Panasonic sales company in your country or region for details on the optional accessories that are available in your market.

GF1 Main Parts and Controls

① Self-timer indicator / AF assist lamp
② Sensor
③ Flash
④ Lens fitting mark
⑤ Mount
⑥ Lens lock pin
⑦ Lens release button
⑧ Flash open button
⑨ Playback button
⑩ [AF/AE LOCK] button
⑪ Rear dial
⑫ Shoulder strap eyelet
⑬ [AF/MF] button
⑭ [Q.MENU] button
⑮ [REMOTE] socket
⑯ [HDMI] socket
⑰ [AV OUT/DIGITAL] socket
⑱ DC cable cover
⑲ LCD monitor
⑳ Cursor buttons
▲ / ISO
◀ / AF mode
▼ / Function button
▶ / WB
㉑ [DISPLAY] button
㉒ [MENU/SET] button
㉓ Delete button
Preview button
㉔ (Live View Finder) socket
㉕ Speaker
㉖ Drive mode lever
Single
Burst
Auto Bracket
Self-timer
㉗ Shutter button
㉘ Hot shoe
㉙ Microphone
㉚ Mode dial
㉛ Camera ON/OFF switch
㉜ Status indicator
㉝ Motion picture button

Box Contents

(GF1C Kit)
•Body
•LUMIX G 20mm/F1.7 ASPH.
•Lens Cap
•Lens Rear Cap
•Lens Storage Bag
•Battery Charger/AC Adaptor
•Battery Pack
•Body Cap
•Hot Shoe Cover
•AV Cable
•USB Connection Cable
•AC Cable
•Shoulder Strap
•CD-ROM

(GF1K Kit)
•Body
•LUMIX G VARIO 14-45mm/F3.5-5.6 ASPH./ MEGA O.I.S.
•Lens Cap
•Lens Hood
•Lens Rear Cap
•Lens Storage Bag
•Battery Charger/AC Adaptor
•Battery Pack
•Body Cap
•Hot Shoe Cover
•AV Cable
•USB Connection Cable
•AC Cable
•Shoulder Strap
•CD-ROM

Battery Life When Recording HD Motion Pictures (Approx.)

AVCHD Lite (SH mode) /Motion JPEG* (HD mode)

	LUMIX G 20mm/F1.7 ASPH.	LUMIX G VARIO 14-45mm/ F3.5-5.6 ASPH./MEGA O.I.S.
Continuous Recording Time	3 h 30 min	2 h 50 min
Actual Recording Time	1 h 50 min	1 h 40 min

•These are standard times taken at a temperature of 23°C (73.4°F) and a humidity of 50%. •The time available for recording varies depending on the environment, the interval between recordings, and the manner of use. •Actual recordable time is the time available for recording when repeating actions such as switching the power supply [ON]/[OFF], starting/stopping recording, zoom operation etc.
*The length of recording time depends on the capacity of the SDHC/SD Memory Card. (Up to the equivalent of 2 GB per motion-picture recording.)

ULTRA COMPACT
G1

- Micro Four Thirds: The open standard that led to the mirror-less body
- Full-time Live View shows you before you shoot how the settings change the photo
- Live View Finder – an electronic viewfinder complete with Full-time Live View
- iA mode automatically selects the most appropriate settings

CREATIVE HD HYBRID
GH1

- Full-HD movie recording in AVCHD with single-lens-reflex photo quality.
- LUMIX G VARIO HD 14-140mm / F4.0-5.8 ASPH. / MEGA O.I.S. for outstanding HD movies
- Enjoy the freedom of manual settings in Creative Movie mode
- The advanced iA mode uses Face Recognition to remember individual faces